

Issue Overview

LIABILITY

- Public and private sector participants in ITS deployment are concerned over becoming or being viewed as “deep pocket” sources of funds to cover accident costs (tort liability) due to ITS operations. Designing safety into all aspects of ITS technology and operations is the most effective strategy to mitigate overall tort liability exposure.
- Parties to ITS deployment contracts can agree in advance to allocate particular tort liability costs to the participating party most appropriate to bear those costs using contract clauses such as waivers, disclaimers, indemnities, releases, and liability limitations.
- The following barriers related to Liability have been identified as having the potential to constrain or hamper the implementation of ITS:
 - (1) Tort liability for injuries associated with ITS products; allocation of risk between ITS providers and users. (page F-11)
 - (2) Allocation of liability among ITS providers; multiple project participants may cause “innocent” governmental party to bear loss if separate disputes with contractors produce inconsistent results. (Page F-15)
 - (3) Potential liability for patent and copyright infringement and anti-trust violations. (Page F-18)
 - (4) Potential liability for monetary loss due to system failure in project with debt service funded by user fees. (Page F-19)

Section F

LIABILITY

F-1. STATEMENT OF ISSUE

Discuss the liabilities (real or perceived) associated with the private sector's participation in contracts to deploy ITS goods and services. Discuss additional liability concerns that are specific to the public transportation agencies.

F-2. ANALYSIS

Although one of the goals of ITS is improving the safety of travelers, the use of ITS technologies may hold greater potential liability for those involved in design, deployment, and operation of ITS **systems than highway and vehicle management** traditionally have presented. Contractual agreements represent a means to allocate liability risks among ITS participants.

F-2.1 Definitions

Tort liability may arise under a number of theories. The most likely theories of liability are listed below, but it should be noted that the precise definition of each theory depends upon the jurisdiction in which the claim is brought:

- (1) Negligence. Failure to exercise due care;^{325/}
- (2) Strict Liability. Manufacturer, seller and distributor are strictly liable for defective product, regardless of due care;^{326/}
- (3) Breach of Express Warranty. Product does not conform to promise made by the manufacturer or seller that was part of the basis of the bargain;^{327/}
- (4) Breach of Implied Warranty. Buyer's reasonable expectation that goods purchased will be free of significant defects and will perform in the way such goods should perform for the particular purpose intended;^{328/}

^{325/} See, Rest. Torts 2d § 95, comment (d).

^{326/} *Id.* at § 402A, comment 1.

^{327/} U.C.C. § 2-3 13(l)(a).

^{328/} See, e.g., Peterson v. Bendix Home Systems, Inc., 318 N.W.2d 50 (Minn. 1982).

(5) False or Negligent Advertising. Advertisements that are deemed to be false or misleading;^{329/}

(6) Fraud or Misrepresentation. Manufacturer or seller makes a fraudulent representation of the condition or safety of the product, or conceals its dangers;^{330/}

(7) Negligent Misrepresentation, Provider or manufacturer of product breaches duty to give correct information, knowing that the consumer will rely on information given, and defendant does not exercise reasonable care in making sure statements are true;^{331/}

(8) Conversion. A wrongful deprivation of one who has a right to immediate possession of an object unlawfully held, most likely to occur in the case of overcharges by electronic technology to collect tolls and weighing fees for commercial vehicles.^{332/}

F-2.2 Federal Law, Regulations, and Procedures Governing Tort Liability of Federal Government

Potential tort liability is not likely to be a significant barrier to the Federal Government's participation in ITS since its role in design, manufacturing, deployment and operations will be limited principally to providing funding. To the extent the Federal Government does have a more active role in certain limited situations, it may be held liable for personal injuries or property damage under the Federal Tort Claims Act (the "FTCA"). The FTCA holds the United States liable to the same extent as a private individual under similar circumstances. However, under the FTCA, the Federal Government is immune from punitive damage awards.^{333/} The FTCA also provides sovereign immunity for property damage or personal injury claims based on strict liability.^{334/}

^{329/} See, e.g., Ebers v. General Chemical Co., 310 Mich. 261, 17 N.W.2d 176 (1945).

^{330/} See, e.g., Toole v. Richardson-Merrell, Inc., 25 Cal.App.2d 689, 706-707, 60 Cal. Rptr. 398 (1967).

^{331/} See, e.g., Walker v. Decora, Inc., 225 Tenn. 504, 471 S.W.2d 778 (1971).

^{332/} See, e.g., In re Thebus, 108 Ill.2d 255, 91 Dec 623, 625, 483 N.E.2d 1258, 1260 (1985). .III.

³³³ 28 U.S.C. § 2674.

^{334/} Dalehite v. United States, 346 U.S. 15, 73 S.Ct. 956, 97 L.Ed. 1427 (1953).

Under the FTCA, the Federal Government is liable for its negligence unless its actions fall within the discretionary function exemption of the FTCA.^{335/} The purpose of the discretionary function exemption is to immunize government employees while they are formulating public policy, and courts look to the conduct of the government to determine whether the mistake of judgment occurred in the course of significant policy and political decisions.^{336/} The discretionary function exemption, however, does not immunize all regulatory actions. Thus, where the government issues a license without receiving the data required by Federal regulations, no discretionary function is involved and no immunity from suit arises.^{337/} Moreover, while the Federal government is not liable for an inadequate warning, liability may attach if the government fails to issue any warning whatsoever of a known hazard.^{338/}

The recent case of Rothrock v. United States^{339/} discusses the applicability of the discretionary function exemption in the context of the Federal-aid highway program. In that case, the plaintiff was injured when his car rolled off a steep embankment on Interstate 65. The plaintiff alleged the accident was caused by the absence of a guardrail, and that the United States was responsible because it had failed to ensure, as a condition of its funding decision, that the design met certain safety standards. The Circuit Court held that the “discretionary function” exemption precluded recovery, because of the “substantial discretion afforded to the Government agents in deciding whether to enforce its safety standards in funding” under the Federal-Aid Highway Act.^{340/}

The Federal Government is immune from suit for deceit or intentional or negligent misrepresentation, provided that the gravamen of the complaint is not the negligent performance of operational tasks.^{341/}

^{335/} 28 U.S.C. § 2680(a). In addition to the Federal Government’s liability exemption for discretionary functions, the FTCA contains several other tort liability exemptions, e.g., assault, slander, misrepresentation.

^{336/} United States v. S.A. Varig Airlines, 467 U.S. 797, 814, 104 S.Ct. 2755, 81 L.Ed.2d 660 (1984).

^{337/} Berkovitz v. United States, 486 U.S. 531, 542-543, 108 S.Ct. 1954, 100 L.Ed.2d 531 (1988).

^{338/} Mandel v. United State 793 F.2d 964, 967 (8th Cir. 1986) (non-immunity where park service failed to provide warning about submerged rocks in river).

^{339/} Rothrock v. United States, 62 F.3d 196 (1995).

^{340/} *Id.*

^{341/} 28 U.S.C. § 2680(h).

F-2.3 State Law, Regulations, and Procedures Governing Tort Liability of State and Municipal Entities, and of Private Sector Participants

Where States are not immune from suit (as discussed in Section 2.3(a), below, regarding sovereign immunity), they will be liable to the extent they act as manufacturers, sellers, distributors, designers, or operators of ITS products, on the same theories faced by private sector participants. This section provides a brief discussion of these theories of tort liability as they relate to ITS.

F-2.3(a) Sovereign Immunity

There are two types of sovereign immunity. First, procedural sovereign immunity is the freedom of the government from being sued. Most states have given up their sovereign right not to be sued. Nonetheless, they still may be immune from liability for certain types of acts in certain types of circumstances under the second type of sovereign immunity -- substantive sovereign immunity.^{342/}

To one degree or another, all states have lost their procedural sovereign immunity through either judicial development of common law, or waiver and constitutional enactment or statute. However, all States still have procedural sovereign immunity under the Eleventh Amendment to the United States Constitution which refuses to extend the Federal judicial power “to any suit in law or equity, commenced or prosecuted against one of the United States by citizens of another State, or by citizens or subjects of any foreign State.” Therefore, “if a citizen of Minnesota were injured as a result of a defective IVHS operated by the State of Florida, that individual would be limited to suit under the tort claims statutes of Florida.”^{343/} Because local government agencies are not the “State,” the Eleventh Amendment may not bar suits against local governments engaging in ITS work unless they are clearly acting as a branch of State government.^{344/} As a general rule, traditionally State highway departments, commissions, authorities and similar bodies have been found entitled to sovereign immunity as agencies of the State in the absence of a waiver of such immunity.^{345/}

With respect to substantive sovereign immunity, States vary widely in the degree to which their laws grant immunity to, or exclude from the general immunity various

^{342/} Roberts, Stephen N., Hightower, Allison S., *Intelligent Vehicle Highway Systems and State Sovereign Immunity for Torts*, paper presented to Federal Highway Administration (Dec. 1, 1993).

^{343/} *Id.* at p. 9.

^{344/} Owen v. City of Independence, 445 U.S.622,100 S.Ct. 1398, 63 L.Ed.2d 673 (1980).

^{345/} See, e.g., Bettencourt v. California Toll Bridge Authority, 123 Cal.App.2d 943,266 P.2d 205 (1954).

government agencies and types of government activities. The States' constitutions and tort claims statutes generally identify those specific items for which immunity has been preserved. A broad discussion of the scope of such immunities, and the jurisdictions in which they are available, is beyond the scope of this paper. Suffice it to say, however, that, in many States, sovereign immunity may lessen the significance of the liability barrier to ITS. For a more comprehensive discussion of the protection afforded by the sovereign immunity laws in the 50 States, see *Intelligent Vehicle Highway Systems and State Sovereign Immunity for Torts*, paper prepared for the Federal Highway Administration dated December 1, 1993, by Nossaman, Guthner, Knox & Elliott. Where sovereign immunity is not available presently for ITS-type claims, to the extent that liability concerns prove to be a significant ITS barrier, an amendment to a State's existing constitutional and procedural sovereign immunity rules may be warranted.

F-2.3(b) Negligence

The manufacturer, designer, distributor and operator of ITS products each has a duty to exercise the appropriate level of due care to ensure that a product or service does not subject a user to unreasonable risk.^{346/} To recover damages, the victim must demonstrate breach of this duty, that this breach was the proximate cause of her injuries, and that she incurred damages. The duty of care is commensurate with the risk of danger involved, and requires the balancing of the likelihood of and gravity of possible harm against the burden of effective precautions.^{347/} All entities involved in providing ITS goods and services will owe a duty of care to all foreseeable users of those services. Those selling ITS products will owe a duty of ordinary care to ascertain through inspections and tests that the product is safe,^{348/} although typically they will not be required to determine the safety of the design itself or to discover latent defects.^{349/}

Public and private operators of ITS will be responsible for maintaining these systems in good working order. In Keyworth v. State^{350/} New York State was held liable when an accident occurred while a traffic signal displayed a green light on all four sides of an intersection; although the state had known about the problem, it had failed to remedy it. Similar scenarios are easily envisioned in the ITS context particularly with regard to ATMS.

^{346/} *Rest. Torts 2d* § 282.

^{347/} *Id.* at § 395, comment(d).

^{348/} Cassels v. Ford Motor Co., 10 N.C.App. 5 1, 178 S.E.2d 12, 15 (1970).

^{349/} Wagner v. Larson, 257 Iowa 1202, 136 N.W.2d 312, 325 (1965); General Motors Corp. v. Davis, 141 Ga.App. 495,233 S.E.2d 825, 828-29 (1977); *Rest. Torts 2d* § 482.

^{350/} Keyworth v. State, Key 20 App.Div.2d 836,247 N.Y.S.2d 897 (1964).

The promulgation of Federal or State statutes or regulations dealing with ITS standards and specifications may heavily influence the standard of care required of ITS providers. Although compliance with such standards will not necessarily exonerate an ITS provider from tort liability, in some states compliance with applicable laws or generally recognized standards provides a rebuttable presumption that a product is not defective or the defendant was not negligent.^{351/}

In some states, an ITS provider will have an absolute defense where its product was in compliance with mandatory government contract specifications.^{352/} However, this defense probably will not be a significant factor until the ITS industry is much more mature; for the present, it is likely that most deployments will be on the basis of government-provided performance specifications, rather than design specifications. Other defenses to negligence claims may include contributory and comparative negligence, assumption of the risk and last clear chance.^{353/}

The prospect of joint and several liability may also act as a barrier to ITS. The manufacturers, distributors, and sellers of ITS goods and services may be jointly and severally liable for damage caused by their respective negligence. Hence, if one party is unable to pay, the others may be required to compensate the victim fully unless such rules are altered by statute.

F-2.3(c) Strict Liability

As opposed to negligence, strict liability focuses on the defectiveness of the product, rather than the conduct of the defendant. State and local governments (to the extent not protected by procedural or substantive sovereign immunity) and private entities may be exposed to strict liability.

Strict liability applies to products, not services.^{354/} Because many ITS technologies, particularly those in the ATMS category, can be described as services rather than products, this liability theory may have more limited application than negligence theories. On the other hand, automatic vehicle identification devices, electronic toll paying devices, in-vehicle information screens, and many Advanced Vehicle Control

^{351/} *E.g.*, Kan. Stat. Ann. § 60-3304(a); Ky. 385 Rev. Stat. Ann. § 411.310(2); M.V. Cent. Code § 28-01.1-05(3); Utah Code Ann. § 78-15-6(3).

^{352/} *E.g.*, Kan. Stat. Ann. § 60-3304(c); Wash. Rev. Code § 7.72.050(2).

^{353/} For a more detailed discussion of these theories, see, Roberts, Stephen N., Hightower, Allison S., et *al.* ***Advanced Traffic Management Systems Tort Liability Issues***, paper presented to Federal Highway Administration (Dec. 1, 1993).

^{354/} Van Iderstine v. Lane Pine Corp., 89 A.D. 2d 459,455 N.Y.S.2d 450,452 (1982).

Systems items will probably be considered to be products. Case law demonstrates that the dividing line is difficult to establish. Public roads and associated guard-rails and bridges generally have been considered to be services rather than products.^{355/} Research of case law has not identified any cases in which the provider of traffic information or weather conditions has been held strictly liable for providing inaccurate information; such matters would probably constitute services rather than products. Courts probably will consider the traffic regulation systems, parking management, and construction management envisioned as part of ATMS to be services, and permit liability only for negligence. At least one state, however, has considered signal control devices to be products. In that jurisdiction if an accident were proximately caused by a malfunctioning traffic control device, strict liability could be an issue.^{356/}

A plaintiff must prove that a product was defective to recover on a strict liability theory, and most states have adopted the Restatement approach, requiring the plaintiff to prove that the product created an unreasonably dangerous condition which proximately caused the plaintiffs injuries.^{357/} In order to prove a product defective, the plaintiff must show manufacturing defects, a failure to warn or a design defect. As stated above, in some states compliance with industry-wide standards, industry custom or government standards is admissible to show that a product is not unreasonably dangerous.^{358/}

Manufacturers and distributors can issue warnings to attempt to avoid foreseeable accidents, but warnings are of little use for manufacturing defects, and little predictability exists across the country to determine the proper location and content of a warning for it to be valid. There is no duty to warn sophisticated users of a danger of which they ought to be aware.^{359/} Therefore, in the context of ITS, while commercial vehicle drivers using ITS might be so “sophisticated” that warnings are unnecessary, ITS manufacturers and operators will probably have a duty to warn ordinary consumers of the risks associated with ITS products.

Defenses to strict liability are similar to defenses to negligence claims. For example, comparative and contributory negligence, and assumption of the risk are available as defenses. In the ITS context, these defenses could arise frequently, such as where a defect in an Advanced Traffic Management System (ATMS) ramp metering light is

^{355/} Edward M. Chadbourne, Inc. v. Vaughn, 491 So.2d 551,553 (Fla. 1986).

^{356/} See, Percle v. Oubre, 564 So.2d 352 (La. App. 1990).

^{357/} ***Rest. Torts 2d §482(A).***

^{358/} See, e.g., Schwartz v. American Honda Co, 710 F.2d 378,383 (7th Cir. 1983).

³⁵⁹ The defense has been applied to bar strict liability and negligence claims. Nozeke v. International Paper Co, 933 F.2d 1293, 1297 (5th Cir. 1991).

blamed for an accident. In such case, there is probably at least some negligence on the part of the driver since the driver should have seen the other vehicle and could have braked, swerved or taken other actions to avoid an accident. In the ATMS context, comparative negligence should be a good defense except in cases of total system breakdown. Assumption of the risk is also a defense applicable in the ATMS context, such as where a user modifies or misuses the ITS product.^{360/}

F-2.3(d) Breach of Express Warranty

Of all the theories of tort liability for ITS, breach of express warranty is probably the least likely to operate as a barrier to ITS. An express warranty is an oral or written promise made by the manufacturer or seller of the goods that the goods conform to an affirmation or promise which is a part of the basis of the bargain for the sale.^{361/} Affirmation of the safety of a product is an express warranty that may subject the manufacturer or seller to an action for breach of that warranty.^{362/} However, breach of express warranty is not a theory of liability which is likely to inhibit the development of ITS because providers of ITS goods and services can control the warranties they make, and thus, can avoid making warranties that they are likely to breach.

F-2.3(e) Breach of Implied Warranty

Theories of breach of implied warranty of merchantability and breach of implied warranty of fitness for a particular purpose are available to most victims in most jurisdictions, regardless of privity of contract. The implied warranty of merchantability covers the buyer's reasonable expectation that goods purchased from a merchant will be free of significant defects and will perform in the way goods of that kind should perform. The warranty is breached if the product is defective to a normal buyer making ordinary use of the product.^{363/} The warranty of merchantability may be disclaimed if the manufacturer or merchant does so at the time of sale and the disclaimer is sufficiently conspicuous. Thus, this theory is not likely to constitute a significant barrier to ITS in states where the manufacturers and sellers can disclaim warranties by informing the buyers of their disclaimer in capital letters and bold face type, and possibly by requiring buyers to sign or initial that they read the disclaimer.^{364/}

^{360/} See, Muniga v. Motors, General 102 Mich.App. 755, 762, 302 N.W.2d 565 (1980).

^{361/} U.C.C. § 2-3 13(1)(A).

^{362/} Hauter v. Zogarts, 14 Cal.3d 104, 115, 120 Cal.Rptr. 681, 534 P.2d 377 (1975).

^{363/} E.g., Peterson v. Bendix Home Systems, Inc., 318 N.W.2d 50 (Minn. 1982).

^{364/} Roberts, Stephen N., Hightower, Allison S., *supru* at note 18, p. 18.

The implied warranty of fitness for a particular purpose requires proof that the seller was informed of the purpose for which the article was purchased, the buyer relied on the seller's skill and judgment, the goods sold were defective and unfit for that purpose, and the defect proximately caused the plaintiffs damage.^{365/} This theory should also be of limited application to ITS products, which generally will be purchased for their ordinary use. It is difficult to envision how an ITS product would be sold for a purpose to which it is not capable.

F-2.3(f) False or Negligent Advertising

Manufacturers and sellers of ITS products (but not services) may be liable in tort for false or misleading advertisement.^{366/} Mere puffing does not present actionable negligent or fraudulent advertising. Rather, statements must actually be misleading or false, the buyer must rely on the advertisement, and the advertisement must proximately cause the claims of injury. This theory is not likely to be a significant barrier to ITS -- it is a theory with which sophisticated developers of ITS systems are already well versed in connection with other products they manufacture.

F-2.3(g) Fraud and Misrepresentation

Similarly, fraud and misrepresentation are not likely to constitute significant barriers to the deployment of ITS. The manufacturer or seller of defective products may be liable for fraudulent representations of the condition or safety of the product, or for concealing its dangers.^{367/} Intentional fraud is more difficult to prove than negligence or strict liability since proof must be obtained of the defendant's knowledge of the falsity of the statement in question, or at least reckless disregard of the truth. Typically, there is no obligation to disclose all material facts, and thus liability for concealment is generally limited to instances where the buyer requests information which is then not truthfully given. Since this type of action is within the control of manufacturers and developers of ITS, it is not likely to significantly deter development of ITS. Governmental entities procuring ITS from private sector manufacturers and developers can minimize their exposure to this theory by obtaining complete indemnities from their vendors (partners).

^{365/} Eg., E.I. DuPont de Nemours & Co. v. Dillaha, 280 Ark. 477, 659 S.W.2d 756 (1983).

^{366/} For a discussion of false advertising claims that could be brought by competitors for unfair competition, or a competitor's injury resulting from false advertising, see, e.g., Lanham Trademark Act of 1946, §43(a), 15 U.S.C. § 1125(a).

^{367/} Toole v. Richardson-Merrell, Inc., 25 1 Cal.App.2d 689, 706-707, 60 Cal.Rptr. 398 (1967).

F-2.3(h) Negligent Misrepresentation

As with intentional misrepresentation, this cause of action is not likely to deter ITS development; entities involved in a project may, to a large extent, determine what representations are made about the ITS products they sell or market.

F-2.3(i) Conversion

As explained earlier in the definitions section, conversion occurs when there is a wrongful deprivation of an object from one who has a right to immediate possession of the object unlawfully held. The most likely circumstance for this claim to arise in ITS is in the context of electronic technology to collect tolls, and to collect weighing fees from commercial vehicles. Use of automatic payment systems may result in overcharges or unjustified charges, raising the possible claim of conversion of the customer's money. However, in these circumstances this claim is not likely to be significant. As a practical matter, conversion suits are not likely to be many in number, as most companies and individuals will seek refunds, and in any event, the amount at risk will be small.

F-3. BARRIERS AND SOLUTIONS

The list of specific liability concerns potentially raised by ITS is probably inexhaustible. Liability issues raised by the operational field tests and case studies include the following:

- Who will insure vehicles for collision and liability;
- Who will insure against project liability for errors such as wrong way directions;
- In the case of an Advanced Traffic Information System (ATIS) device located on the inside of the vehicle, on what theories may a person sue because of compromised safety due to distraction because of the screen, and who is exposed to liability;
- In the case of devices that are "add-on units," where improper installation or maintenance may result in the device becoming a potential projectile or interfering with air bags, how can the proper installation and use of such devices be ensured; and
- What steps can be taken to assure that drivers participating in operational tests are good driving risks?

As discussed below, each of these issues may, to at least some extent, be addressed by contract.

Additional concerns will arise as new technologies are developed, and as commercial deployment of ITS technologies extends beyond the operational testing phase. These concerns may include the following:

- As ITS products are commercially deployed, vendors of the products and providers of the services will have increasingly less control over the quality of the driver population using the products, and thus less ability to manage risks by limiting use of the products to drivers with good driving records;
- The broader the market and the further removed the consumer of the technology is from the vendor/provider, the more the vendor/provider must be concerned about the effectiveness of any “informed consent” obtained as a requirement to the purchase or use of the product or service. Additionally, if the product or service is actually required to be used on certain roads, informed consent may be meaningless. ITS providers will also need to be concerned with how strong a waiver they may require for use of the ITS technology without severely restricting the marketability of their products and services;
- It will be increasingly difficult to control quality as technologies are used across multiple jurisdictions because products will be integrated with other technologies and used under increasingly variant circumstances; and
- Where multiple systems are available on the market and integrated so as to be used concurrently, it may be difficult to sort out the respective liabilities of ITS component providers.

Barrier No. 1	Tort liability for injuries associated with ITS products; allocation of risk between ITS providers and users
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As described above, the many theories under which tort liability may be imposed, a lack of certainty with regard to which ITS technologies will be considered “products” and therefore create exposure for strict liability, the potential for punitive damages awards, and lack of uniformity in the statutory and case laws, rules, and regulations of different

jurisdictions, all operate as potential barriers to ITS deployment. The problems are exacerbated by the fact that applications of ITS technologies, by their inherent nature, are intended to cross jurisdictional boundaries.

Solution 1(a)	<p>(a) Require driver participants to sign informed consent forms</p> <p>(b) Every time the car's engine is started, the data screen warns driver that the system is experimental and that safety is the driver's responsibility</p> <p>(c) Each party provides its own insurance for its staff members and for test participants</p>
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Designing safety into the system in the first place is the most obvious mitigation strategy for liability concerns. In the **TravTek** project, General Motors' design of the ATIS display interface precluded the driver from manipulating the data screen while the vehicle was in motion. Whenever the car's engine is started the display has a disclaimer reminding the driver that it is an experimental system, and that safe driving is the driver's responsibility. This approach would provide a defense to strict liability on the grounds that the driver has been adequately warned.

Requiring that driver participants sign an informed consent form is another solution developed by the **TravTek** partners. As reported by the Volpe case studies, no known recruits for the **TravTek** project refused to sign the informed consent and waiver. Therefore, the waiver does not appear to have been a significant barrier to obtaining participation in the project. However, only time will tell how effective such waivers are when dealing with a high technology project. It may be that a court would conclude that consumers are not sufficiently sophisticated to waive any rights associated with the technologies, and that such waivers have limited enforceability.

The **TravTek** participants mitigated some of their liability concerns by imposition of detailed insurance requirements. In **TravTek**, each partner provided its own insurance for its own staff members and test participants. The evaluation contractor obtained liability insurance as a reimbursable cost under the contract.

The **TravTek** partners also made a thorough prequalification check of all test participants' driving records. This type of due diligence should help to mitigate liability concerns. However, as explained above, in later stages of commercial deployment this type of prequalification check may become unwieldy and unrealistic.

Similarly, in the **ADVANCE** case study, participants were required to sign an informed consent statement identifying the possible risks of participation in the study. The **ADVANCE** participants wisely dealt with the liability issue at the inception of the project through a contractual provision detailing the driver participation requirements. Participants in the test were required to provide their own insurance meeting certain minimum standards.

B. The driver recruitment procedures shall include provisions for reasonable assurance that recruited drivers are properly licensed to drive the motor vehicles in which navigation systems are installed and that they have and maintain adequate insurance during the period of their participation in the project. An informed consent agreement between the ADVANCE program and participating drivers shall be drafted and approved by the Steering Committee prior to its use in driver recruitment.^{368/}

Solution 4 (b)

Require test participants to execute waivers containing warranty disclaimers and liability limitations

The **Washington State Department of Transportation’s SWIFT** project provides good examples of how the parties in ITS projects may use contracts to limit their exposure for tort liability to users of the ITS technology. The **SWIFT** project agreement includes the following provision:^{369/}

11.3 Waivers. The State will cause all participants in the Test to execute waivers containing (i) warranty disclaimers equivalent to those in Section 11.2 and (ii) limitations of liability substantially as follows: “THE PARTICIPANT UNDERSTANDS AND AGREES THAT IN NO EVENT SHALL ANY PARTY IN THE SWIFT PROJECT BE LIABLE TO THE PARTICIPANT FOR ANY DAMAGES, CLAIM, OR LOSS (INCLUDING WITHOUT LIMITATION, COMPENSATORY, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES, LOST PROFITS, LOST SALES OR BUSINESS, OR LOSS OF ANY GOODWILL) ARISING OUT OF THE SWIFT PROJECT IRRESPECTIVE OF WHETHER THE PARTY HAD BEEN INFORMED OR KNEW OF OR SHOULD HAVE KNOWN OF THE LIKELIHOOD OF SUCH DAMAGES, CLAIM OR

^{368/} *Id.* at note 5.

^{369/} Agreement for Seattle wide-area information for travelers, *supra*, at note 49. [Note that the waiver is in bold face capital letters.]

LOSS. THIS LIMITATION APPLIES REGARDLESS OF WHETHER SUCH DAMAGES, CLAIM OR LOSS ARE SOUGHT BASED ON BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY, MISREPRESENTATION, OR ANY OTHER LEGAL OR EQUITABLE THEORY.”

Solution 1(c)	Require transponder customers to execute release and indemnity in order to pay tolls electronically
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In the license agreement that customers are required to sign in order to obtain a transponder so that they may electronically pay tolls on the new **Orange County Transportation Corridors**, the licensee (customer) must specifically agree as follows:

Release and Indemnity: We hereby release TCA from all loss, damage, or injury whatsoever, known or unknown, arising out of or in any manner connected with the use or performance of the Transponder. Neither TCA nor its agents shall have any obligation or liability to you with respect to your use or the performance of the Transponder. Your sole and exclusive remedy from TCA and its agents shall be replacement of any defective Transponder. You agree to indemnify, protect and hold harmless TCA and its agents from all liability for any loss, damage or injury to persons or property arising from or related to the Transponder.^{370/}

It must be stressed, however, that when waiver and indemnity provisions are included as boilerplate in purchase, lease or license agreements, and are conditions precedent to obtaining the use of required technology, it is difficult at this point to predict whether or not, and the extent to which, such provisions will be enforceable. Furthermore, the enforceability of such provisions is likely to differ depending greatly upon the jurisdiction in which a claim is brought.

^{370/} Lease, Purchase and Installation Agreement among the Foothill/Eastern Transportation Corridor Authority, the San Joaquin Hills Transportation Corridor, Lockheed Information Management Services Company and Lockheed Corporation, dated February, 1993.

Barrier No. 2

Allocation of liability among ITS participants; multiple project participants may cause “innocent” governmental party to bear loss if separate disputes with contractors produce inconsistent results

Where multiple parties are entering into a project to provide an ITS service or product to the public, the parties may allocate various potential liabilities by contract in order to make it commercially reasonable for the parties to enter into the arrangement. For example, the project may not be feasible if parties are exposed as “partners” to liabilities for the negligence of other parties, unless the parties agree to indemnify one another for their respective negligent acts, and there is adequate insurance or other assets to support the indemnity obligations. Additionally, the threat of liability for unforeseen consequential damages may be a barrier to ITS. Therefore, it is typical to find limitations on liability for consequential damages in the contracts between parties to an ITS project.

The fact that ITS projects may call for a complex integration of the efforts of multiple contractors raises additional problems. The procuring transportation agency is exposed to a risk of loss for which it may not be compensated in the event of inconsistent outcomes in litigation with different contractors. For example, suppose that the transportation agency is sued as a “deep pocket” in case a consumer is injured as a result of an ITS system on the public agency’s road, and the public agency is held liable. Suppose further that the injury resulted from a failure in the system, and it is unclear whether the failure was in a product supplied by one contractor, or resulted from an operational error of another contractor. If the transportation agency has to seek indemnity recovery from its respective contractors in separate dispute resolution proceedings, it runs a risk of inconsistent results. It is possible that in a dispute with Contractor A, it will be adjudicated that Contractor B was at fault, and in a dispute resolution proceeding with Contractor B, it will be determined that Contractor A was at fault. Thus, the only thing that is clear is that the transportation agency should be indemnified by at least one of the Contractors, yet the transportation agency may not prevail in its action for indemnity from either contractor.

Solution 2(a)	Project agreement includes express warranty disclaimer
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The project agreement may include express warranty disclaimers, such as those set forth in the agreement for Cooperative Demonstration project to design, develop, implement and evaluate an Intelligent Vehicle Highway System known as Seattle Wide-Area Information for Travelers (**“SWIFT”**):

11.2 Warranty Disclaimers. Any deliverable hereunder of a Party’s standard commercial product (for example, SCS’s wristwatches, IBM’s portable computers and Delco’s car radios) shall be delivered to the Project with such Party’s standard commercial product warranty (including all the warranty disclaimers therein). Except for such standard commercial product warranties, no Party makes any warranty regarding any deliverable hereunder (including without limitation, any data, information, system, product or equipment), whether express or implied, and all warranties of merchantability and fitness for any particular purpose are expressly excluded. Without limiting the foregoing, no Party makes any warranty that: (i) any data that is provided to others will be provided in an uninterrupted manner or that the data will be free of errors, or (ii) any data that it receives from others will be processed and transmitted by it in an uninterrupted manner or that the data processed and transmitted will be free of errors. Except for the standard commercial product warranties for standard commercial products described in the first sentence of this Section 11.2, deliverables will be delivered on an “AS IS,” “AS AVAILABLE,” and “WITH ALL FAULTS” basis. Data will be provided, processed and transmitted on an “AS IS,” “AS AVAILABLE,” and “WITH ALL FAULTS” basis. No Party shall have any liability to any other Party under tort, contract or any other legal or equitable theory arising from the “AS IS,” “AS AVAILABLE,” and “WITH ALL FAULTS” basis described in the previous two sentences. Notwithstanding the above warranty disclaimers, with respect to non-standard products (other than data) for which standard commercial product warranties do not apply, each non-State Party agrees that it shall use reasonable efforts to support and maintain such non-standard products to work toward the goals and objectives of the Project.

Solution 2(b)	<p>(a) Limit vendor's liability to State or local agencies to the amount of money paid to-date under the contract</p> <p>(b) limit period for bringing claims to two years</p> <p>(c) Mutual waiver of liability for consequential damages</p> <p>(d) Mutual obligation to notify all parties of any tort claims</p>
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Many operational test participants have attempted to limit their liability by including in their project agreements provisions expressly limiting the parties' respective liabilities to one another. In the **TRAVLINK** project, Motorola's liability to the Minnesota Department of Transportation (MinnDOT) is limited to the amount of money that MinnDOT has actually paid to Motorola, and the period of limitations for bringing claims is limited to two years. These limitations are fairly typical in systems integration agreements. The agreement also provides that neither party is liable to the other for consequential damages, also a typical systems integration agreement provision. Similarly, in the **ADVANCE** project, the parties have expressly provided that they shall not be liable to one another for consequential damages resulting from their efforts under the demonstration project.

Keeping the partners well informed of potential sources of liability is another way the **ADVANCE** partners alleviated concerns regarding tort liability. Section XII.A. of the **ADVANCE** agreement specifically provides as follows:

If any claim is made or action commenced for death, personal injury, or property damage resulting from the condition, use or operation of demonstration vehicles, copies of every demand, notice, summons, process and pleading received in connection therewith shall be shared with all PARTIES.

Solution 2(c)	Require all contractors involved in a project to participate in joint dispute resolution to avoid inconsistent allocation of liability
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In the **Orange County Transportation Corridor** Agencies' procurement of a toll systems contract, the agencies avoided the possibility of inconsistent results that might result from separate tort liability proceedings with its construction contractor, on the one hand, and its toll systems contractor, on the other hand, by requiring both contractors to participate in a joint dispute resolution board proceeding in the event of an accident potentially involving both contractors.

Barrier No. 3	Potential liability for patent and copyright infringement and anti-trust violations
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Solution 3	<p>(a) Agree to mutual indemnification for patent infringement</p> <p>(b) Have vendor indemnify agency for anti-trust violations</p> <p>(c) Perform due diligence reviews to identify potential patent issues relating to an element of the proposed system. Parties agree in advance on an alternative substitute technology as a back-up</p>
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Typically, the parties to an ITS contract will allocate this type of liability through indemnification provisions in the agreements. For example, in the **TRAVLINK** operational test, the parties indemnified one another for patent infringement and the vendor indemnified MinnDOT for anti-trust violations.

In the case of the **Orange County Transportation Corridor**, when due diligence during the negotiation process indicated the possibility of a patent problem with one of the system components, the parties expressly addressed the issue in the contract. In the contract the parties agreed in advance on the replacement technology should the patent issue interfere with delivery of the system as proposed.

Barrier No. 4	Potential liability for monetary loss due to system failure in project with debt service funded by user fees
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This issue becomes increasingly important as transportation agencies enter into public/private partnerships for the development of new infrastructure. Typically, such infrastructure is financed, at least in significant part, by debt to be repaid from user fees for the infrastructure. Electronic systems employed on such projects to collect the user fees must be held to a high level of accuracy in order to provide the financing community with confidence that user fees will be collected and available to pay debt service.

Solution 4	Contractor assumes responsibility for system accuracy regardless of whether or not contractor is the cause of the failure
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The agreements for the electronic toll collection system for the **Orange County Transportation Corridors** demonstrate the high level of importance that lenders place on avoiding risk that the ITS will be unable to collect the user fees, for any reason. In order to obtain the lending communities' confidence in the projects, the Transportation Corridor Agencies were required to set a high performance threshold in the toll collection contract. Additionally, the circumstances in which the contractor would be excused from performance were required to be extremely limited. In that contract, the contractor guaranteed system accuracy to 99.7%, regardless of whether or not the contractor was the cause of any failure to collect the user fee.^{371/}

^{371/} See Toll Collection and Revenue Management System Installation and Lease Purchase Agreement among Foothill/Eastern Transportation Corridor Agency, a joint powers agency, and San Joaquin Hills Transportation Corridor Agency, a joint powers agency, and Lockheed Information Management Services Company, a New York corporation, and Lockheed Corporation, a Delaware corporation, dated as of February 26, 1993, page 22.

F-4. ADDITIONAL FINDINGS AND RECOMMENDATIONS

(1) Standardization of electronic specifications and procedures will need to be achieved to obtain seamless interoperability of systems across jurisdictions. The burgeoning of new technologies will undoubtedly engender litigation concerning liability for patent infringement and associated disputes regarding intellectual property rights. These liabilities can be adequately anticipated and allocated by contract, and the risk of exposure, while maybe not insignificant, is at least sufficiently predictable so as not to be a serious disincentive to participation in the ITS industry.

(2) High-stakes tort liability has been the focus of the most concern regarding liability. Potential “deep pockets” include the entire ITS community: Federal, State and local governments, educational facilities, consultants and industry. Different aspects of ITS present varying degrees of risk that may be allocated by contract to some extent:

- **Advanced Traffic Management Systems (“ATMS”)** have perhaps the least potential for injury to motorists, but are not without risk. In ATMS systems, traffic managers make decisions intended to influence drivers’ travel route decisions. One may expect claims that, in case of an accident, a malfunction in the design, manufacture or operation of the ATMS was at least one cause of a motorist’s injuries, such as a claim by a motorist who has driven into a dangerous traffic condition that his choice was affected by the ATMS.^{372/} Designers, manufacturers and operators of ATMS may allocate liability among themselves by contract with indemnity provisions, and to some extent may manage risk with detailed insurance specifications, and requirements that users execute waiver and release forms as a condition to obtaining the products, among other techniques.
- **Advanced Traveler Information Systems (“ATIS”)** provide drivers with access to continuous advice about traffic and related conditions, with the intent of enhancing the driver’s ability to determine the quickest and safest route to a given destination. ATIS informs drivers of existing conditions based upon input received from the ATMS.^{373/}

^{372/} Roberts, Stephen N., Hightower, Allison S., *et al.*, *Intelligent Vehicle Highway Systems and State Sovereign Immunity for Torts*, paper prepared for the Federal Highway Administration (Dec. 1, 1993).

^{373/} IVHS AMERICA, *Strategic Plan for Intelligent Vehicle Highway Systems*, at III-21, November 1994; P. Rothberg, *Intelligent Vehicle Highway Systems (IVHS): Challenges, Constraints, and Federal Programs*;

Since drivers using ATIS will make decisions based upon information supplied by the system's operators, drivers might claim that a design, manufacture or operational defect resulted in data that caused them to have an accident. Additionally, since ATIS needs a means of delivering information, such as a display screen within the vehicle, lack of attention to driving conditions while dealing with the ATIS device could cause accidents. Designers, manufacturers and operators of ATIS may employ certain contracting procedures like those used in ATMS to manage and alleviate risks.

- **Advanced Vehicle Control Systems ("AVCS")** present the most obvious risk of liability. At the technologically most advanced end of innovation, AVCS may even result in completely automated highways with total control of the vehicle.^{374/} The private sector will be primarily responsible for developing AVCS services. Performance specifications will be developed by the Department of Transportation, and State and local governments will contract with private entities for the provision of AVCS infrastructure equipment.^{375/} "One need only imagine the ultimate scenario of the driver ceding total control of his or her car to AVCS technology to identify the targets of lawsuits if something goes wrong. Since the driver had no control over the car, the liable party in that injured person's view will necessarily be someone who designed, manufactured or operated the AVCS."^{376/} As with ATMS and ATIS, designers, manufacturers and operators of AVCS may allocate liability among themselves by contract. They may also attempt to obtain waivers and releases from consumers as a condition to use of the product.

(3) Apart from questions of tort liability, ITS systems that are responsible for collection of revenue raise another entirely separate, but significant, liability issue, particularly in light of increasing fiscal constraints, and the trend towards public/private infrastructure finance. Who is liable for an ITS

M. Cheslaw and S. Hatcher, *Area Comparative Evaluation of Alternative ATMS/ATIS Architectures for Intelligent Vehicle Highway Systems* (1993).

^{374/} Transportation Research Board, *Special Report 232 Advanced Vehicle and Highway Technologies* (1991).

^{375/} Additional information on contemplated programs may be found in the *National Program Plan for Intelligent Vehicle-Highway Systems (IVHS)*, Oct. 15, 1993 Draft, prepared by the Federal Highway Administration.

^{376/} Roberts, Stephen N., Hightower, Allison S., et al., *Intelligent Vehicle Highway Systems and State Immunity for Torts*, paper prepared for the Federal Highway Administration (Dec. 1, 1993).

system's failure to collect a user fee, and in what circumstances? This issue is further complicated in the case of interoperable multi-jurisdiction systems, such as **E-ZPass**.

(4) Many ITS projects involve multiple parties and multiple agreements. Often an ITS system will require a transportation agency to contract separately with many different contractors. When something goes wrong, it may be clear that it is not the transportation agency's fault, but each contractor's respective share of liability may not be readily apparent. If the transportation agency is held liable to a third party, or in the case of project delay, is damaged with change orders by one or more of its contractors, it runs the risk of inability to recover for its loss unless it can force the contractors to join in a single dispute. Without that ability, the public agency may seek recovery from Contractor A, only to have the trier of fact determine that Contractor B is responsible, and visa versa.

F-4.1 **Suggested Approach**

(1) Address liability issues early. Contract provisions can be structured to allocate liability among the most appropriate parties, and to provide indemnities as appropriate.

(2) Customers should be provided adequate notice of the potential risks associated with using ITS technologies, and wherever possible, carefully drafted informed consents and waivers should be obtained.

(3) Adequate insurance provisions should be required in all partnering arrangements. Risk management consultants should be consulted early in the procurement process.

(4) The parties' respective roles and responsibilities should be stated as precisely as possible in their agreements.

LIABILITY

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